

REMARKS

Claims 1-20 remain pending in the present application and contain the following status according to the final Office Action:

1) Claims 1, 2, 7, and 13 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Chappell* (U.S. Patent No. 6,425,132) in view of *Caporizzo* (U.S. Patent No. 5,874,992) and *Chen et al.* (U.S. Patent No. 6,032,019).

2) Claim 3 stands rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Chappell* in view of *Caporizzo* and *Chen et al.*, and further in view of *Schwartz* (U.S. Patent No. 5,883,882).

3) Claims 5, 6, 8, 10, 11, 14-16, 18, and 19 stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Chappell* in view of *Caporizzo* and *Chen et al.*, and further in view of *Hsu et al.* (U.S. Patent No. 6,483,814).

4) Claims 4, 9, 12, 17, and 20 would be allowable if re-written in independent form to include the subject matter of independent claims 1 and 13.

I. Telephone Interview

Applicants wish to express their appreciation to Examiner Volper for conducting a telephone interview with Applicants' representative on August 3, 2004. During the telephone interview, several significant issues were discussed concerning the disclosure of the present application, the scope of the pending claims, and the teachings of the prior art references. These issues are reiterated below for clarification of the record.

II. Response to 35 U.S.C. §103 Rejection

Applicants respectfully traverse the 35 U.S.C. §103 rejections, which were applied in the manner mentioned above. Applicants assert that the cited references, taken alone or in combination, do not teach or suggest all of the claimed elements of independent claims 1 and 13. Furthermore, the cited references fail to explicitly or implicitly provide any suggestion or motivation to modify *Chappell* or combine reference teachings as suggested in the Office Action.

In order to make a proper *prima facie* case of obviousness, three basic criteria must be met, as set forth in **MPEP 706.02(j)**. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available

to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references, when combined, must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on Applicants' disclosure.

Applicants assert that the combination fails to teach or suggest all of the features of the independent claims. Applicants also assert that the teaching or suggestion to make the suggested combination only exists in Applicants' disclosure and is absent from the prior art.

A. Background

Chappell discloses a testing device for testing ingress of a selected node. Fig. 1 illustrates the overall system of a CATV system, which, in addition to conventional elements, includes a testing services headend 26 and one or more field clients 50. A technician connects a field client 50 to a node in order that the node can be tested for ingress. The field client 50 sends a node identifier N_ID to the testing services headend 26 along with a reverse telemetry message. When the testing services headend 26 receives the N_ID identifying the node to be tested, the testing services headend 26 receives the reverse telemetry message from the field client 50 on the respective node and performs spectral analysis on the signal. The test results of this node are forwarded to the field client 50 on that node for displaying the test results on the field client 50 for the technician's viewing.

Fig. 2 illustrates the details of the testing services headend 26, which includes a combiner 62, a test point switch 64, and an ingress modem 60. The combiner 62 provides a composite signal 63_{N+1} that is a combination of any signals that might be present on the nodes. This composite signal is passed through the test point switch 64 to the ingress modem 60 until a node identifier N_ID is received from one of the nodes. The N_ID signal is sent from the ingress modem 60 to the test point switch 64 via communication link 66. In response to receiving N_ID, the test point switch 64 switches the input $63_1, 63_2, \dots, 63_N$, corresponding to the identified node, with its output 67. In this way, the reverse telemetry message from the identified node is sent to the ingress modem 60 for spectrum analysis.

B. Brief Summary of the Present Application

The present application is directed to monitoring systems and methods that implement display logic for displaying test results of a telecommunications system. The telecommunications system includes a plurality of channels, a plurality of nodes that each connect to a number of channels, and one or more groups of nodes. Test results can be obtained on individual channels (channel level), on a node (node level), and on a group of nodes (group level) using a spectrum analyzer. In association with the spectrum analyzer (Figs. 1A-1C) is a computer and related graphical user interface (GUI) software, which displays the test results in a user controlled format.

Figs. 11A-11K illustrate possible GUI displays for displaying the telecommunication test results. Using the display level selection box 369, the user is able to select whether the GUI software displays the test results on the group level, node level, or channel level. Figs. 11A-11C illustrate possible displays when the group level button is selected. Figs. 11D-11F illustrate possible displays when the node level button is selected. And Figs. 11G-11K illustrate possible displays when the channel level button is selected.

C. Claim 1

Independent claim 1 is directed to an interface system for monitoring a number of channels in a communications system having at least one group of a number of nodes, each node having a number of channels. The interface system comprises a processor, a memory, a display device, and *test result interface logic*, which, for example, may correspond to the GUI software for displaying test results. The test result interface logic includes “*group level display logic*,” “*node level display logic*,” and “*channel level display logic*.” These different logic elements generate test results on the group level, node level, and channel level. These test results can all be displayed on a single display device. The prior art fails to teach or suggest logic that generates all three of the levels on the same display device. Also, the prior art fails to suggest altering the device of *Chappell* to allow the display on the field client 50 to display these three levels. Furthermore, there would be no motivation for altering *Chappell* in such a way since the technician at the respective node would not have any particular need or desire to see, or to select to see, test results on a group level since the technician in the *Chappell* patent is only testing for ingress on the one node.

Claim 1 also recites that the test result interface logic further includes “*logic to enable a user to select among the group level test result components, node level test result components, and channel level test result components for display on the display device.*” The cited references, taken alone or in combination, fail to teach or suggest this claimed feature. Also, the prior art fails to provide motivation to alter the *Chappell* reference in a manner to enable selection of the various display levels, as claimed. Particularly, since the references merely disclose operating on one level only, there would be no need or reason to even consider such a selection.

For at least these reasons, Applicants assert that claim 1 is allowable over the combination of references as applied in the Office Action and respectfully request that the Examiner kindly withdraw the rejection. Dependent claims 2, 3, 5-8, 10, and 11 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1.

D. Claim 13

Independent claim 13 is directed to a method for monitoring a number of channels in a communications system having at least one group of a number of nodes, each node having a number of channels. The method comprises the steps of “*generating a number of group level test result components,*” “*generating a number of node level test result components,*” and “*generating a number of channel level test result components.*” The test results at the different levels are generated on a single display device. The combination fails to teach or suggest generating these test results from each of these three levels on a single display device. Also, the prior art does not teach or suggest a motivation to alter *Chappell* or combine teachings to provide such a process.

Claim 13 further recites the step of “*enabling a user to select among the group level test result components, node level test result components, and channel level test result components for display on the display device.*” The cited combination of references fails to teach or suggest this claimed feature and fails to provide a motivation to alter the *Chappell* reference in such a way as to enable selection of the various display levels. Since the references merely disclose operating on one level only, there would be no reason or desire to consider such a selection.

For at least these reasons, Applicants assert that claim 13 is allowable over the combination of references and respectfully request that the Examiner withdraw the rejection. Furthermore, dependent claims 14-16, 18, and 19 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 13.

III. Response to Arguments

The Office Action states that *Chappell* discloses that node level test results may be measured by a field client and sent to the headend. This statement is incorrect. *Chappell* actually discloses that the headend receives a reverse path signal from the field client and measures the frequency response of the signal. Then the test results are sent to the field client. See col. 5, lines 28-36.

The Office Action also states that *Chappell* discloses a signal comprised of multiple node level test results, composite signal 63_{N+1} . Applicants contend that this statement is incorrect. First, as mentioned above, the field client does not provide test results to the headend. Second, the composite signal is not the sum of all signals on all nodes, but only a signal representing the reverse path signals from some of the nodes that might be providing those signals at any particular time. Furthermore, the composite signal is only used so as to detect when one of the nodes sends a node identifier N_ID to identify a node that is to be ingress tested. See col. 5, lines 8-16.

The Office Action also states that *Chappell* clearly shows the capability to perform analysis on any of the inputs of the test point switch 64 at the headend. Applicants disagree with this statement. *Chappell* does not teach or suggest that “any” input is analyzed, but only the inputs connected to the nodes. The composite signal is not analyzed nor is it even meant to be. However, even if the composite signal were passed onto the ingress modem 60 for analysis, the composite signal would not be a useful signal to which analysis could be done. Instead, it would be an unsynchronized accumulation of randomly selected signals from any number of nodes that might be sending requests for advanced services (see element 24) or N_ID signals. Of course, any spectrum analysis on such a signal would not provide any useful test results.

The Office Action states that there is sufficient disclosure to suggest that a combination of node level test results, i.e. group level test results, may be sent to the

headend to be analyzed. Applicants disagree with this statement since *Chappell* does not provide any suggestion in this regard, but only teaches testing one node at a time. Receiving the node identifier N_ID, the headend only analyzes one node at a time. *Chappell* is silent concerning any modifications from this intended use. The other references are silent in this regard as well. Also, it should be observed that *Chappell* lacks any necessary circuitry for accomplishing a group level test, such as some inefficient system of synchronized field clients on each node of the group.

The Office Action also states that the *Chappell* reference does not have to be altered to provide test results on different levels since this capability is already demonstrated in Fig. 2 and that it is also obvious to add an additional level of testing, i.e. channel level testing, to the invention of *Chappell*. Applicants disagree. The capability of testing on different levels is not taught or suggested by *Chappell*, or any combination of the cited references, but only testing on one level, as mentioned above. Secondly, adding an additional level of testing is not taught or suggested in *Chappell*, or any combination of the cited references. Such a suggestion, if one exists, must be present in the prior art. However, lacking evidence of such a suggestion, the Office Action relies on impermissible hindsight of Applicants' invention to reconstruct the invention according to the teachings of the present application and not based on evidence in the prior art record.

The Office Action states that the features of claims 1 and 13 can be found in the combination of references. Applicants disagree. For example, the combination does not disclose at least "*logic to enable a user to select among the group level test result components, node level test result components, and channel level test result components for display on the display device*" as claimed in claim 1. The combination also fails to disclose at least "*enabling a user to select among the group level test result components, node level test result components, and channel level test result components for display on the display device*" as claimed in claim 13. The references do not teach any desirability of testing at different levels and displaying test results with respect to the different levels, and they fail to disclose, or even suggest any desire to include, enabling a user to select among the different levels.

Case law suggests that "[o]bviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references

can be combined only if there is some suggestion or incentive to do so.” *ACS Hospital Systems, Inc., v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). “There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination.” *In re Oetiker*, 977 F.2d 1443, 1447, 24 USPQ 2d 1443 (Fed. Cir. 1992). None of the references alone or in combination provide an impetus necessary to cause one of ordinary skill in the art to combine the teachings of the references in the way the Office Action has done.

Moreover, to draw on hindsight knowledge of the claimed invention, when the prior art does not disclose or suggest that knowledge, is an approach using the invention as a template for its own reconstruction, which would be “an illogical and inappropriate process by which to determine patentability.” *Sensonics, Inc. v. Aerasonic Corp.*, 81 F.3d 1566, 1570, 38 USPQ2d 1551, 1554 (Fed. Cir. 1996). An evaluation of the obviousness or non-obviousness of claims must not be made with the benefit of hindsight using the present application as a blueprint to reconstruct the claimed invention from the references. The invention must be viewed not after the blueprint has been drawn by the inventor, but as it would have been perceived in the state of the art that existed at the time the invention was made. *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1138, 227 USPQ 543, 547 (Fed. Cir. 1985).

CONCLUSION

Applicant respectfully submits that all rejections have been traversed and that pending claims 1-20 are in condition for allowance. Favorable reconsideration and allowance of the present application and claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned agent at (770) 933-9500.

Respectfully submitted,

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on August 9, 2004.

Evelyn Sanders

Signature – Evelyn Sanders